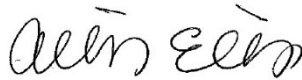


U.S. DEPARTMENT OF VETERANS AFFAIRS
ADVISORY COMMITTEE ON STRUCTURAL SAFETY
OF DEPARTMENT OF VETERANS AFFAIRS FACILITIES

MINUTES OF ANNUAL MEETING

Thursday, June 2, 2022
9:00 a.m. – 5:30 p.m. EST

Microsoft Teams Virtual Meeting



Approved for submission **Allison C. Ellis, PE, Chair** **September 22, 2022**

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VA OFFICES/ACRONYMS: ACMO: Advisory Committee Management Office; ADFO: Advisory Committee Alternate Designated Federal Officer; ADUSH: Assistant Deputy Under Secretary for Health; AED: Associate Executive Director; CFM: Office Of Construction & Facilities Management; CSS: Consulting Support Service; DFO: Advisory Committee Designated Federal Officer; FSS: Facilities Standards Service; OCAM: Office of Capital Asset Management; ODC: Office of Design and Construction; OFP: Office Of Facilities Planning; OSHM: Office of Safety & Health Management; PM: Program Manager; PMG: Planate Management Group; SPMO: Seismic Corrections Program Management Office; VHA: Veterans Health Administration

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1. Greetings, introductions, protocols, committee planning, and comments – Chair Allison Ellis

- a. Committee Chair, Allison Ellis officially opens the 2022 meeting of the Federal Advisory Committee on Structural Safety of VA Facilities at 9:00 AM
- b. Roll Call conducted by Juan Archilla
- c. Overview of Meeting Protocols
- d. Overview of Meeting Agenda

2. Executive briefing by CFM Executive Director – Dr. Michael D. Brennan

- a. Commended the Committee for their contributions to the VA. Highlights importance of assisting with our ability to modernize our infrastructure and leveraging the most up-to-date practices when it's come to design and capital investments, and
- b. Keeping our Seismic Design Handbook up to date.
- c. Everything we do in CFM now is based on a philosophy of achieving speed and agility that will better posture CFM to implement action solutions such as the Committee's recommendations to meet the Department's requirements.

3. Executive briefing by the Deputy Chief of Staff – Ms. Cassandra M. Law

- a. Shared three overarching themes from the Secretary Office:
 - a. Secretary McDonough and all the leadership extremely committed to ensure that we have and continue to put Veterans at the center of everything we do. And while that's always been a part of our dialogue, it is very much a part of everyday thinking, decision making, resource allocation, really challenging everyone to make sure that in the interest of the veterans, that is where all our decisions are surfacing.
 - b. Getting things done, as there have been a lot of promises made. The work VA, in particular VHA, did during the pandemic has been exceptional. We now find ourselves back into a more, a full paced post-pandemic operation. Also, accountability to Veterans, certainly again going back to really trying to focus all our decision makings on that core premise.
 - c. Enhancing and sharing the four-part unity agenda from President Biden's State of Union Address. VA is engaged in all four lanes by addressing the mental health crisis to prevent Veteran suicide, conducting research to end cancer as we know it, beating the opioid epidemic, and supporting Veterans.
- b. Other major VA updates:
 - a. Rolling out the new Electronic Health Records system has been a significant improvement
 - b. VA recommendations to the Asset and Infrastructure Review (AIR) Commission to modernize and realign the VA health care system, which includes facilities.

4. Response to 2020 Committee recommendations

- a. Response 2: H-18-8 updates and FEMA P-58 Performance Evaluation Tool analysis of Ancillary Buildings – Juan Archilla
 - i. **Recommendation 2 (2020):** The Advisory Committee on Structural Safety of Department of Veterans Affairs Facilities commends CFM for their thoughtful review of the FEMA P-58, Vol. 5 studies, as they relate to VA's categories of facilities specified in H-18-8 Seismic Design

Handbook. The Committee finds that the CFM review demonstrates the beneficial effects of H-18-8 seismic design provisions (i.e., limits on drift, etc.) on the performance of its structures. The Committee recommends that VA staff develop refinements to the H-18-8 provisions that incorporate the information obtained from their review of FEMA P-58, Vol. 5. Suggested refinements include revising Section 3.2 to:

- Require approval of the VA Seismic Safety Coordinator for steel special concentrically braced frames, and
- Removing the requirement for VA Seismic Safety Coordinator approval for special steel moment-resisting frames.

The Committee also recommends that CFM study the possibility of using the FEMA P-58 data to identify options for reducing repair times for Ancillary buildings.

- ii. **VA Response:** Concur. The Office of Acquisition, Logistics, and Construction's (OALC) Office of Construction and Facilities Management (CFM) will update VA Handbook H-18-8 "Seismic Design Requirements" to incorporate the recommended edits for special concentrically braced frames and special steel moment-resisting frames. Additionally, OALC CFM will further review the Federal Emergency Management Agency (FEMA) P-58 Performance Estimation Tool to assess potential options that would improve repair times for ancillary buildings.

iii. **Briefing**

2020 FEMA P-58 Performance Estimation Tool (PET) Study

- (1) 2020 study validated H-18-8 drift criteria for Critical and Essential facilities for expected performance measures
- (2) Ancillary facilities may not be repairable – Life Safety is the performance goal for Ancillary buildings
- (3) The FEMA P-58 PET is an interactive tool to view seismic performance of various buildings and inputs, based on a repository of FEMA P-58 runs on 1,755 archetypes across 5 lateral systems. Can be used to make comparisons of performance outcomes between different building systems and design criteria for various seismic hazards
- (4) PET Design Space inputs
 - (a) Drift space inputs
 - (i) Drift criteria – H-18 -8 has specific criteria that can be used for the study
 - (ii) Base shear factor
 - (iii) Building Lateral Systems available – BRBF, SMRF, SCBF, RC SMRF, SRC SW
 - (b) Occupancy, Risk Category, Bldg. Ht., Seismic Hazard, Limited scope to drift-controlled lateral systems and other underlined inputs
- (5) PET Outputs
 - (a) All performance metric results below are plotted as a function of seismic hazard intensity – 20%, 40%, 67%, 80%, 100% of MCE
 - (b) Casualty rate, %
 - (c) Probability of Collapse, %
 - (d) Median and Mean Loss, % Replacement Cost
 - (e) Median and Mean Repair Time, days (2022 focus)

- (f) Probability of Unrepairable Permanent Drift, %
- (g) Probability of Total Repairability, %
- (h) 90th percentile Loss, %
- (i) 90th percentile Repair Time, days
- (j) Probability of Unsafe Placard, %
- (6) VA Ancillary Bldgs. 2020 Summary
 - (a) Match expectations for Ancillary
 - (i) Low casualties and collapse correlate to Life Safety in 2/3 MCE
 - (ii) Facilities may not be repairable

2022 PET Study

- (1) Repeat study for Ancillary buildings by lowering drift limit by FEMA P-58 PET built-in increments until H-18-8 Critical/Essential drift limit reached.
 - (a) Observe improvements in repair times
- (2) ASCE 7-16 drift limits - Table 12.12-1 Allowable Story Limits, Δ_a
 PET Low-rise: $0.025h_{sx}$, PET Mid-rise: $0.020h_{sx}$
 - (a) PET Moment frames start at the ASCE 7 drift limits
 - (b) PET BRBF starts lower already at $0.015h_{sx}$
 - (c) Stiff/non-drift -controlled systems already start at 50 % drift limit of $0.01 h_{sx}$
 - (i) Limit scope to drift controlled BRBF and moment frames
- (3) Mid-Rise Observations
 - (a) BRBF only system potentially unrepairable at
 - (i) 2/3 MCE (mean only), MCE only (median and mean)
 - (ii) Reducing drift by 50% does improve repairability
- (4) Low-Rise Observations
 - (a) BRBF system potentially unrepairable at
 - (i) 2/3 MCE and MCE
 - (ii) Reducing drift by 50% does improve 2/3 MCE repairability, although it's still relatively high (median: 720 -> 207 days, mean: 437 -> 313 days)
 - (iii) However, it does not effectively improve MCE repairability
 - (b) Reinforced Concrete SMRF also unrepairable at MCE only
 - (i) Reducing drift by 50% does improve MCE repairability (median: 720-> 27-44 days, mean: 419->72-146 days)

iv. Discussion

- (1) BRBF (Buckling-Restrained Braced Frame) is a relatively newer system. Not even one of the FEMA Building Types.
- (2) Jerry and Nathan comment. BRBF results are surprising, but the key is they perform well for life safety. However, downtime and repairability is another issue. BRBF did perform poorly relative to the other systems for repairability due to large deformations.
- (3) As Ancillary facilities may not be repairable, there was a discussion on backup plans. Jacob mentioned that VA Medical Centers are required to have emergency backup plans as part of their accreditation. This would include some Ancillary facility functions being served at Critical/Essential facilities or by community partners.
- (4) Jerry comments. There's an increasing number of new systems, some of them covered in building code, some of them not quite yet. For example, the feature of replaceable components in the structural system with the goal of being able to have the structural

system survive several earthquakes. If the VA had stated discussing trying to prioritize those systems?

- (5) Asok mentioned that the BRBF systems observed in Major projects have replaceable components. Jerry added that these systems will continue to expand and is something to keep an eye on.
- (6) The objective of this task was to evaluate the existing criteria for Ancillary structures and determining whether we need to change the criteria or keep as it is.
- (7) No recommendations were made as the point was made that if the function becomes important, the facility's importance could be elevated to Essential or Critical if necessary to ensure operations continue in the event of a major earthquake.

5. Response to 2020 Committee recommendations (Continued)

b. Response 3: Risk assessment screening of Ancillary buildings – Juan Archilla

- i. Recommendation 3 (2020):** The Advisory Committee on Structural Safety of VA Facilities commends CFM for addressing the issue of ranking of Ancillary buildings at VA Facilities and for the initial development of criteria to be considered in that process. The Committee recommends that CFM further develop these concepts and consider adopting existing rapid evaluation methodologies (i.e., FEMA 154 or similar) to develop both near- and long-term approaches of ranking such facilities. The Committee notes that some facilities classified as Ancillary may be large outpatient clinics or office buildings with potentially large occupancy, and thus a robust ranking system is needed to address their potential deficiencies. The Committee recognizes that this is a long-term project and that additional resources may be needed to implement it.
- ii. VA Response:** Concur. OALC CFM will continue to study near and long-term methods for ranking ancillary facilities for seismic risk, including investigating the potential use of FEMA P-154, "Rapid Visual Screening of Buildings for Potential Seismic Hazards."
- iii. Seismic Ranking of Ancillary Buildings**
 - (1) Seismic Screening of Ancillary Buildings
 - (a) VA prioritizes Critical and Essential seismically deficient facilities for seismic mitigation projects, utilizing VA's Exceptionally High Risk (EHR) and High Risk (HR) building lists.
 - (b) VA is also committed to identifying and mitigating life safety seismic risks of Ancillary buildings.
 - (2) 2020 Advisory Committee Recommendation
 - (a) Recommended further develop ranking concepts for Ancillary buildings
 - (b) Recommended to consider adopting existing rapid evaluation methodologies (i.e., FEMA 154 or similar) to develop both near – and long-term approaches of ranking Ancillary facilities.
 - (3) Future RP 10 (ICSSC Recommended Practice 10 (RP 10-22), Standards of Seismic Safety for Existing Federally Owned and Leased Buildings) Implications
 - (a) Draft version of RP 10 (expected to be published by the end of CY22 to replace RP 8) adds new voluntary seismic screening as triggers for detailed seismic evaluation, in addition to current mandatory triggers for evaluation
 - (4) FEMA P-154 Rapid Visual Screening
 - (a) Used to identify, inventory, and screen buildings for seismic hazards

- (b) Initial assessment is Level 1 screening
 - (c) Simple formula to obtain a score, based on
 - (i) Seismicity, age, No. of Stories, soil, irregularities, FEMA Building Type (lateral force resisting system)
 - (ii) The Final Score, S, is intended as an estimate of the negative base-10 logarithm of the collapse probability given MCE shaking
 - (iii) $S \leq 2.0$ is suggested threshold for failure for standard occupancy buildings
 - (d) Screener also checks for other concerns/hazards
 - (i) Unknown building type
 - (ii) Other hazards
 - Geologic hazards or Soil Type F
 - Pounding potential
 - Failing hazards from taller adjacent building
 - Significant damage/deterioration
 - (iii) Separate recommendation for nonstructural evaluation
 - (e) Optional Level 2 - more detailed screening also available
 - (i) More refined analysis with more inputs, but still rapid
 - More on irregularities, redundancies, pounding, additions, etc.
 - Only 5- 15 minutes extra per bldg. if done with Level 1
 - Structural Engineer required
 - The Final Score more accurately represents the expected performance of the building with less built-in conservatism
- (5) Ancillary Building Totals
- (a) Conducted limited Level 1 assessment of all VA buildings
 - (b) 298 seismically non-exempt Ancillary Buildings
 - (i) Including Low Seismicity
 - (ii) Structural irregularities unknown in database
 - (iii) 238 with known structural system (60 unknowns)
 - (iv) 230 in Moderate Low (ML) Seismicity and higher
 - 206 fail screening in Moderate Low (ML) Seismicity and higher
 - 164 fail screening in Moderate High (MH) Seismicity and higher
 - Failures likely higher accounting for irregularities
 - (c) Limit scope to MH and higher Seismicity
 - (i) 235 buildings (including unknown structure types)
 - (d) Or increase scope to ML Seismicity to also include Critical and Essential facilities in ML Seismicity zones?
 - (i) Critical/Essential facilities in MH and higher seismic zones are already being covered with voluntary seismic studies
- (6) Critical/Essential Buildings in Lower Seismicity Totals
- (a) 552 seismically non-exempt Critical/Essential Buildings in L and ML Seismicity
 - (i) Including Low Seismicity
 - (ii) 423 with known structural system
 - (iii) 122 in ML Seismicity (13 unknown system)
 - 76 fail screening in Moderate Low (ML) Seismicity and higher
 - (b) Total 425 buildings (including unknown structure types)
 - (i) 290 Ancillary in ML and higher Seismicity
 - (ii) 135 Critical and Essential in ML Seismicity

- (7) FEMA P-154 Observations
 - (a) Useful tool for rapid screening, but critical data is missing and need onsite assessment
 - (i) Structural irregularities
 - (ii) Verify all structural frame systems and dates of construction or retrofit
 - (iii) Would need an AE contract for a qualified structural engineer collect data, especially for Level 2 assessments
- (8) Seismic Ranking for Ancillary Facilities
 - (a) Could sort by FEMA P-154 Final Score (smallest to largest) for structural seismic deficiency ranking
 - (b) Issue is that would only account for deficiency and no other factors (i.e., size, number of occupants, 24/7 occupancy, etc.)
 - (c) Could use FEMA P-154 Final Score and link it to the Deficiency Category score in the current scoring system, until a full seismic study is completed for Deficiency Category
- (9) Adapt Existing Seismic Ranking Score Formula for Ancillary Buildings?
 - (a) Total Score = DC + S + NB + SZ
 - (i) DC: Deficiency Category Score
 - Severity of structural deficiencies or if just nonstructural deficiencies exist
 - (ii) S: Seismicity score
 - (iii) NB: Number of beds score
 - If not available for hotels, quarters, could replace with standard points for these 24/7 occupied facilities
 - (iv) SZ: Size score (square footage)
 - (b) Add New factor for building visited by Veterans?
 - (i) Veterans Services factor would add importance factor
 - Outpatient buildings
 - Other buildings visited by Veterans

iv. Discussion

- (1) Nathan Gould comments. It provides a very conservative result but is not a bad tool. It is heavily dependent on building types. It's a good tool especially when we're just comparing buildings to each other. There are a few pitfalls with using FEMA P-154. It's all based on HAZUS and FEMA P-155 talks about that. It's a good tool but be mindful of limitations but could be useful for relative ranking system.
- (2) Is a Level 2 Screening needed? The torsional, vertical and the other irregularities have deductions. Doing a Level 2 would be a great advantage. A base score of 2.0 is a good place to start but not the full solution, especially when you look at different material types. It would help for the relative ranking.
- (3) Juan adds that RP-10 was not necessarily suggesting the tool for ranking but they were suggesting using it for as a voluntary screening tool to trigger a detailed seismic evaluation.
- (4) The tool is designed to support Ancillary buildings.
- (5) Nathan and Jerry comment. Pick a subset of buildings to validate the FEMA P-154 result. Pick a few concretes, especially non-ductile reinforced concrete frames, steel moment frames, steel braced frames, unreinforced masonry focusing on Higher seismic region.

v. **Recommendation 3 (2022)**

Evaluation of FEMA P-154 for initial seismic assessment of Ancillary Buildings

The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs (VA) for the preliminary investigation of use of FEMA P-154 in the seismic evaluation and ranking of Ancillary buildings. The Advisory Committee recommends that the VA continues investigating the use of FEMA P-154 through detailed P-154 assessments of a variety of subsets of building types, followed by confirmation studies using ASCE 41. These assessments by FEMA P-154, once validated, can be used as input to a ranking procedure to prioritize further action. The Committee further recommends that VA continue to establish a seismic ranking procedure for Ancillary buildings.

6. New Business Items

a. Update on VA Climate Resilience Efforts – James Symanski

i. Update on VA Climate-Resilience Efforts – Related to VA Sites and Facilities

(1) Responding to Climate Change

- (a) Mitigation
- (b) Adaptation
- (c) Resilience

(2) Drivers

- (a) Executive Order 13990
- (b) Executive Order 14008
- (c) Executive Order 14057
- (d) VA Directive 0065, Climate Change Adaption and Resilience Planning (Updated Ma, 2022)
- (e) VA Climate Action Plan (2022)
- (f) NEW: “White House New Bldg. Codes Initiative”, launched June 1

(3) Past Efforts

- (a) Hurricane Study
- (b) Sea-Level Rise Study, FY16
- (c) Added climate-resilience requirements to VA Site Design Manual, FY21

(4) Ongoing/Upcoming Efforts

- (a) Climate-Ready Sites and Facilities Working Group (CFM-led)
- (b) VA Climate Adaptation Working Group (OAEM-led)
- (c) Adding climate resilience requirements to VA Sustainable Design Manual, FY23
- (d) High-level Vulnerable Facilities Study (OAEM), FY23
- (e) CFM hiring “Climate Resilience Specialist”, FY23
- (f) Detailed Facility Vulnerabilities Study (CFM-led), FY25?

ii. **Discussion**

- (1) Skip Gregory comments. Glad to hear VA is emphasizing the issue of climate change and resiliency issue again. Suggested looking at the Facility Guidelines Institute (FGI) *Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions* available at <https://fgiguideines.org/fgi-releases-emergency->

[conditions-white-paper/](#). Also suggested VA attend Florida's healthcare facilities seminar that is concentrating on addressing climate change.

- (2) James added that part of the Executive Order (EO) was net zero emission from new facilities.
- (3) Nathan Gould comments. For facility design near the coastal regions, where flood, storm surge and extreme wind are factors, one of the considerations are what models to use for design. Different models are available for storm surge and how to incorporate and sea level rise related to climate change, and differing opinions on the topic. A lot of designers just change return periods and go to a higher return period to build in some conservatism due to uncertainty. If VA would look at this to focus on one or two models that designer could then use with confidence, that would be very helpful.
- (4) James responded: The model required when evaluating potential project sites to address sea level rise in the Site Design Manual (PG-18-10) is the U.S. Army of Engineers' (USACE) 'Sea-Level Change Curve Calculator' to determine low, intermediate, and high projections. He will make a note to investigate other models used in industry.
- (5) Gyimah Kasali comments. He is on the Provisions Update Committee (PUC) where sustainability is a very important topic. The last PUC cycle produced ASCE 7-22. A goal for the next cycle is to implement sustainability and functional recovery into ASCE 7-26. A Functional Recovery Group was created which is going to focus on the issue of sustainability and functional recovery. How can we incorporate sustainability apart from a qualitative aspect, but changing the code in a quantitative manner to reflect functional recovery in the event of a major event?
- (6) Jerome Hajjar comments. VA could consider encouraging or requiring that consulting firms who work with them sign on to the SE 2050 initiative. During the Structural Engineering Institute (SEI) Structures Congress 2022, it was apparent that sustainability was a significant theme of the conference. If the Federal government started requiring it, it would influence and trickle down to industry. For example, performance-based design, which has been discussed for decades for new design, got a huge boost when GSA started requiring it. Other observations from the conference: Working on using structural steel from 100% renewable energy and eliminating carbon emission from cement production. Mass timber is skyrocketing now, and combining steel and timber is another trend. Coupling Federal public policy to implement such measures and encouraging or requiring firms to sign on to SE 2050, would change the landscape. Lastly, universities have observed that most structural engineering undergraduates who want to do research or get into the practice, want to emphasize sustainability. This is less of a factor for the graduate student population.
- (7) Skip Gregory comments. Does VA have processes for carbon produced just through the energy consumption of the health facility itself? The embodied carbon and from all the vendors that come and go through healthcare facilities; are they practicing net-zero carbon, reducing their greenhouse gas emissions?
- (8) James: Executive Order (EO) 14057 does address that and the Federal government is moving in that direction where if you want to provide services or goods to the government, you will have to reduce embodied the carbon that comes out of your systems and processes.

- (9) Steven Winkle comments. Wondering if VA is looking at any model codes for adopting as guidance for sustainability or developing new guidance?
- (10) James: VA has not gotten to that point yet, but that will be part of the process is to look at the model codes first. That's what we should do before we develop up our own standards. So, VA has not looked closely at that yet, but will check those out as we move forward.

iii. Recommendation 2 (2022)

VA Climate Resilience Efforts

The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs (VA) for initiating implementation of VA climate resilience efforts. The Advisory Committee recommends that VA evaluate the goals set forth by the White House in Executive Order 14057, OMB Memo M-22-06, and the implementing instructions for EO 14057, and develop a strategy to achieve those goals, including evaluation of existing codes and standards, or development of new codes and standards to support those goals. The Advisory Committee suggests reviewing the following resources:

- *The Structural Engineering Institute's SE 2050*
 - o *Utilization of materials, methods, and operations with low embodied carbon*
- *The US Resiliency Council's rating system*
- *The 2026 National Institute of Building Sciences' Provision Update Committee's functional recovery efforts*
- *The California Green Building Standards Code*
- *ASHRAE 189.1 and 189.3*

b. Tornado resistant design – Juan Archilla and Nathan Gould

- i. The St. Louis JC Major project is in a high-risk tornado area. USACE engineers involved in the project review suggested incorporating tornado resistant design standards for this project. But current building design code does not include tornado design for buildings (beyond tornado shelters). However, tornado design loads are published in the recently released ASCE 7-22 standard, which is anticipated to be adopted in next version of IBC. That future version of IBC would then later be required to be used by VA, expected to occur in 2024. A Tornado loads subcommittee was developed to address this issue.
- ii. ***Tornado Subcommittee Recommendations for the Incorporation of ASCE 7-22 on VA projects:***

The Advisory Committee on Structural Safety of VA Facilities Tornado Subcommittee commends the Department of Veterans Affairs for reintroducing the issues of facility resiliency due to climate change effects (e.g., high winds, tornados, and flooding).

The Tornado Subcommittee recommends to the Advisory Committee that the following actions be initiated by the VA:

Long Term Recommended Action:

The Department of Veterans Affairs should adopt ASCE 7-22 for use on new building projects as soon as it is voted upon for adoption at the end of the 2022 administrative code change cycle for inclusion into 2024 International Building Code. The adoption of ASCE 7-22 by the VA would therefore occur prior to the VA's formal adoption of the 2024 IBC.

Short Term Recommended Action:

The Department of Veterans Affairs should immediately incorporate Chapter 32 (Tornado Loads) from ASCE 7-22 into the design requirements for the design of new buildings in the St. Louis John Cochrane Major project. For each new building, the A/E will be required to submit a comprehensive plan to the VA detailing the method by which they will integrate the ASCE 7-22 Chapter 32 loads with the ASCE 7-16 requirements.

iii. Discussion

- (1) Gyimah comments: Cost implications for the short-term recommendation? Asok responds: Budget is not established yet, as the project is only at the preliminary phase before the budget gets finalized. Nathan adds that the tornado loads may not even control over normal wind loads, depending on if the footprint of the site is large enough to make tornado loads govern over traditional wind loads.
- (2) For the long-term recommendation, clarified that ASCE 7-22 should be incorporated into H-18-8 for seismic loads and the Structural Design Manual to cover all structural loads, beyond just tornado. Gyimah adds that this is consistent with discussions at the 2020 meeting about H-18-8 adopting ASCE 7-22 early before the IBC, and Juan added that is consistent with precedence for past versions of H-18-8.
- (3) Steve comments: This is the right action, especially considering the sustainability and resilience issue. Tornadic winds are increasing because of global climate change.
- (4) Fred comments: How about Tulsa? El Paso? Question about whether these projects are further along in the design phase to make that too late, or still early such as the St. Louis project. Nathan suggested to check with ASCE 7-22 map about El Paso, as it may be outside of the tornado load risk area, depending on the square footage in the project. El Paso is a design build project at the Request for Proposal stage. Tulsa is more complicated because it's a public-private partnership and it's for an existing building, and some VA design requirements were exempted. Fred adds that the façade will be replaced and designed for blast pressures. Nathan adds that if it's a blast resistant design, that often governs over tornado loads.
- (5) Asok reminded that tornado loads apply for Risk Category III and IV buildings, not Risk Category II. Fred added that the El Paso project was designated as Life Safety Protected (LSP). Juan commented that if it's LSP, then it would be Ancillary (Risk Category II), so the tornado loads wouldn't apply.
- (6) Asok comments: Dallas CMH project (Bed Tower, New Construction) may need to apply tornado loading, the project is a few years down the road. Asok will discuss with the PM about incorporating tornado loads.
- (7) Juan asks when the IBC administrative code change cycle would occur to adopt ASCE 7-22. Allison said it typically would be 6 months before the code is published, so likely around mid-2023, if the IBC is published in January 2024. Nathan added that the VA would still be ahead of industry because states and municipalities would not adopt it until around the 2025-2026 timeframe.

- (8) Gyimah commented that he thought Federal agencies could adopt the standard before IBC does, however, Steve added that it's wise to wait for the IBC administrative vote to accept it to ensure VA uses the future IBC adopted version of ASCE 7-22, because it's never guaranteed that the IBC would adopt the full standard without exceptions.
- (9) Gyimah recommended tweaking the short-term recommendation to allow flexibility to apply it for other projects versus only applying it to St. Louis. The group agreed and the recommendation was modified to add flexibility, to consider applying it for other buildings as deemed appropriate.

iv. Recommendation 1 (2022)

Advisory Committee Recommendations for the Incorporation of ASCE 7-22 on VA projects

The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs for reintroducing the issues of facility resiliency due to climate change effects (e.g., high winds, tornados, and flooding).

Long Term Recommendation:

The Advisory Committee strongly recommends that the Department of Veterans Affairs adopt ASCE 7-22 for use on new building projects as soon as it is voted upon for adoption at the end of the 2023 administrative code change cycle for inclusion into 2024 International Building Code. The adoption of ASCE 7-22 by the VA would therefore occur prior to the publication of the 2024 IBC.

Short Term Recommendation:

The Advisory Committee strongly recommends that the Department of Veterans Affairs incorporate Chapter 32 (Tornado Loads) from ASCE 7-22 into the design requirements for the design of new buildings in the St. Louis John Cochrane Major project and should be considered for other buildings as appropriate. For each impacted building, the A/E should be required to submit a comprehensive plan to the VA detailing the method by which they will integrate the ASCE 7-22 Chapter 32 loads with the ASCE 7-16 requirements.

c. New business/finalize recommendations

No new business and Recommendations 1, 2 and 3 (2022) noted above were finalized.

7. Adjourn

a. Meeting adjourned at 5:30 pm - Chair Allison Ellis